



East Vacuum GBSA Unit #2739-W522

Lea County, NM

January 13, 2015

Job No. LNM5120915

**HOBBS OCD
OCT 20 2017
RECEIVED**

Survey Completion Report



PRODIRECTIONAL

Survey Certification Letter

January 13, 2015



Operator Name: ConocoPhillips
Well Name: East Vacuum GBSA Unit #2739-W522
County/Parish: Lea County,
State: New Mexico
Rig Name: Precision 194
Job Number: LNM5120915

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

<u>Surveyor</u>	<u>Surveyed Depths</u>	<u>Projection to Bit</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
ProDirectional	1,699'MD – 4,999'MD	5,051' MD	12/02/15 – 12/04/15	MWD

Sincerely,

Mike Coats
Well Planning
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266

prodirectional.com



ConocoPhillips

Lea County, N.M.
East Vacuum GBSA Unit
Well # 2739-W522
OH

Survey: ProDirectional

Survey Report

13 January, 2016

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ProDirectional
Survey Report



Company:	ConocoPhillips	Local Co-ordinate Reference:	Well Well # 2739-W522
Project:	Lea County, N.M.	TVD Reference:	Well @ 3958.00usft
Site:	East Vacuum GBSA Unit	MD Reference:	Well @ 3958.00usft
Well:	Well # 2739-W522	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD	Database:	Well_Planner1

Project	Lea County, N.M.		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	East Vacuum GBSA Unit		
Site Position:		Northing:	652,841.86 usft
From:	Map	Easting:	764,633.16 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 47' 30.45 N
		Longitude:	103° 28' 19.90 W
		Grid Convergence:	0.47 °

Well		Well # 2739-W522				
Well Position	+N/-S	0.00 usft	Northing:	657,440.09 usft	Latitude:	32° 48' 15.39 N
	+E/-W	0.00 usft	Easting:	771,442.24 usft	Longitude:	103° 26' 59.69 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level:	3,944.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	11/18/2015	7.15	60.70	48,592

Design		MWD		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	312.21

Survey Program		Date 1/13/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
1,699.00	5,051.00	Survey #1 (OH)	MWD	MWD - Standard

Company: ConocoPhillips
Project: Lea County, N.M.
Site: East Vacuum GB SA Unit
Well: Well # 2739-W522
Wellbore: OH
Design: MWD

Local Co-ordinate Reference: Well Well # 2739-W522
TVD Reference: Well @ 3958.00usft
MD Reference: Well @ 3958.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	657,440.09	771,442.24	
1,699.00	0.20	134.60	1,699.00	-2.96	-2.08	2.11	2.97	134.60	657,438.01	771,444.35	
Pro MWD Frist Survey: 1699' MD											
1,878.00	0.30	171.70	1,877.99	-3.64	-2.77	2.40	3.66	139.03	657,437.32	771,444.64	
2,057.00	0.30	180.50	2,056.99	-4.31	-3.70	2.47	4.44	146.31	657,436.39	771,444.71	
2,236.00	0.80	139.00	2,235.98	-5.86	-5.11	3.28	6.07	147.29	657,434.98	771,445.52	
2,415.00	0.60	116.70	2,414.97	-8.01	-6.47	4.94	8.14	142.66	657,433.62	771,447.18	
2,594.00	0.90	123.30	2,593.96	-10.30	-7.67	6.95	10.35	137.81	657,432.42	771,449.19	
2,773.00	1.00	110.00	2,772.93	-13.13	-8.97	9.59	13.14	133.09	657,431.12	771,451.83	
2,952.00	0.90	116.60	2,951.91	-15.93	-10.14	12.32	15.95	129.45	657,429.95	771,454.56	
3,131.00	0.70	135.80	3,130.89	-18.38	-11.55	14.34	18.41	128.85	657,428.54	771,456.58	
3,311.00	2.20	308.70	3,310.85	-16.03	-10.18	12.41	16.05	129.36	657,429.91	771,454.65	
3,490.00	5.40	309.00	3,489.44	-4.19	-2.73	3.18	4.19	130.63	657,437.36	771,445.42	
3,669.00	8.00	305.20	3,667.20	16.59	9.76	-13.55	16.70	305.76	657,449.85	771,428.69	
3,848.00	10.70	308.30	3,843.81	45.54	27.24	-36.77	45.76	306.53	657,467.33	771,405.47	
4,027.00	11.10	309.10	4,019.58	79.32	48.40	-63.19	79.60	307.45	657,488.49	771,379.05	
4,206.00	12.00	311.20	4,194.95	115.13	71.53	-90.56	115.40	308.30	657,511.62	771,351.68	
4,385.00	11.70	310.40	4,370.14	151.88	95.55	-118.38	152.13	308.91	657,535.64	771,323.86	
4,564.00	11.30	309.70	4,545.54	187.54	118.51	-145.70	187.81	309.13	657,558.60	771,296.54	
4,743.00	11.00	309.40	4,721.16	222.12	140.56	-172.39	222.43	309.19	657,580.65	771,269.85	
4,923.00	10.80	310.90	4,897.92	256.13	162.50	-198.40	256.46	309.32	657,602.59	771,243.84	
4,999.00	10.70	310.80	4,972.58	270.30	171.77	-209.13	270.63	309.40	657,611.86	771,233.11	
Last Survey: 4999' MD											
5,051.00	10.70	310.80	5,023.68	279.95	178.08	-216.43	280.28	309.45	657,618.17	771,225.81	
PTB: 5051' MD											

Company: ConocoPhillips
Project: Lea County, N.M.
Site: East Vacuum GBSA Unit
Well: Well # 2739-W522
Wellbore: OH
Design: MWD

Local Co-ordinate Reference: Well Well # 2739-W522
TVD Reference: Well @ 3958.00usft
MD Reference: Well @ 3958.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,699.00	1,699.00	-2.08	2.11	Pro MWD Frist Survey: 1699' MD
4,999.00	4,972.58	171.77	-209.13	Last Survey: 4999' MD
5,051.00	5,023.68	178.08	-216.43	PTB: 5051' MD